UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
3623	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/550,792	ASSADIAN ET AL.
Office Action Summary	Examiner	Art Unit
	ERNEST A. JACKSON	3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>22 September 2005</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-6,8 and 9</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-6,8 and 9</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>22 September 2005</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>11/03/2005</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Status of Claims

1. This action is in reply to the application filed on September 22, 2005.

2. The preliminary amendment filed on September 22, 2005 has been entered.

3. **Claim 7** has been cancelled as per preliminary amendment. **Claims 1-6, 8 and 9** are currently pending and have been examined.

Information Disclosure Statement

4. The Information Disclosure Statement filed on November 3, 2005 has been considered and the initialed copy of Form 1449 is enclosed herewith.

Claim Objections

5. **Claims 1 and 8** are objected to because of the following informalities: Claims 1 and 8 are long sentences without any preambles. A claim is usually preceded with a preamble and separated by a colon from the body of the claim.   Further, the limitations within the body of a claim are separated by a semi-colon. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 1-6, 8 and 9** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-6 are directed to "an event

scheduling apparatus", and claims 8 and 9 are directed to a "software agent". It is unclear to the examiner as to what statutory class of invention these claims are intended to embrace. The examiner notes that the current statutory classes of invention are as follows: process (or method), machine (or apparatus), article of manufacture, composition of matter, or any new and useful improvements thereof.

Claim 1 recites an apparatus comprising evaluating means and scheduling means. Also, the evaluating means comprises of a determining means. These functional means statements can be considered computer programs, which are not articles of manufacture. Claim 8, which is directed to software agent, can also be construed as a computer program, which is also not an article of manufacture. Since Applicants' specification does not provide a clear distinction between the functional means statements and the software agent, these claims are rendered indefinite.

7. **Claims 1-6** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It appears that Applicant invokes 35 U.S.C. 112, sixth paragraph, since "evaluating means" could be interpreted as "means for evaluating", "scheduling means" as "means for scheduling", and "determining means" as "means for determining". The examiner notes that MPEP 2181 states that invoking 112 6th requires the use of the language "means for" (please see the 3 prong test). Therefore, it is unclear whether the applicant intends to invoke 112 6th paragraph and thus the claims are indefinite.

For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

The claim limitations "evaluating means", "scheduling means", "determining means" are a means (or step) plus function limitations that invoke 35 U.S.C. 112, sixth paragraph. However, the written description fails to clearly link or associate the disclosed structure, material, or acts to the claimed function such that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function. In particular the "means for" language can encompass software/logic/modules which is not statutory and is not necessarily tied to another statutory class. Appropriate correction is required.

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it clearly links or associates the corresponding structure, material, or acts to the claimed function without introducing any new matter (35 U.S.C. 132(a)); or

(c) State on the record where the corresponding structure, material, or acts are set forth in the written description of the specification that perform the claimed function.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. **Claims 1-6** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 1 is directed to an event scheduling apparatus for use in scheduling events on behalf of a plurality of participating entities. The apparatus comprising an evaluating means and a scheduling means, and the scheduling means takes its input from the evaluating means with respect to one or more physical entities. The evaluating means comprising a determining means operable on behalf of at least one physical entity identified in the received event request to (a) determine a value and (b) combine said determined values according to a rule set. The mentioning of a physical entity and fuzzy logic processor in the body of the claim does not give it a physical structure. Also, the evaluating means, scheduling means and determining means can all be construed as computer programs which are not physical structures. Claims 1-6 thus lack a physical structure; therefore, the claim, as written, is directed to a non-statutory subject matter.
    Appropriate correction is required.

    Claims 8 and 9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
    As noted above in the 112, second paragraph rejection, Claim 8 is directed to a software agent operable in a computer processing arrangement on behalf of at least one physical entity to evaluate event requests. The software agent is thus a computer program and is non-statutory under § 101. To be considered an article of manufacture and statutory, claim 8 must recite the software agent as embodied on a computer-

readable medium and when executed by a processor performs its necessary functions. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claims 1-6, 8 and 9** are rejected under 35 U.S.C. 103 (a) as being unpatentable over Wang (US 2006/0009987 A1) in view of Koreeda et al. (US 5,781,731).
   Claim 1:

   As per claim 1, Wang discloses in distributed scheduling the limitations of:

   - an event scheduling apparatus for use in scheduling events on behalf of a plurality of participating physical entities (The scheduler 200 comprises at least some of programs 210, 211, 213, 215. These programs are stored on storage 207 and are processable by the CPU 201. - See ¶ [0044] of Wang), the apparatus comprising evaluating means and scheduling means, the evaluating means being arranged to evaluate a received event request comprising information about the event and to generate an input to the scheduling means with respect to one or more physical entities identified in the received event request, the evaluating means comprising determining means operable on behalf of at least one physical entity identified in the received event request (Turning to FIG. 6, at step 601, the slot agent SA1 receives the availability

message sent at step 317, and, if the message indicates that user U3 is not free (evaluated at step 603), the slot agent SA1 uses the user's preference for attending the meeting during that slot to evaluate 605 a group preference therefor (the user U3 may, for example, have had an appointment in his diary during the slot in question, but, in response to the preference request (step 313), the user may have indicated that he could not change that appointment, thereby specifying a low preference for attending meeting I_m). – See ¶ [0061] of Wang), to:

- a) determine a value for each of a plurality of predetermined measures, said measures including a measure of the importance of the requested event to said at least one physical entity, the value for each said measure being derived according to a rule set for the measure by combining information about the event with data obtained from at least one information source associated with said at least one physical entity (The group preference indicates a collective preference for attending the meeting during that slot. Assuming that "most preferred" is indicated by a value of 3, "least preferred" is indicated by a value of 1 and "not available" is indicated by a value of 0, then, in the event that two out of three invitees could attend the meeting during a slot, with preference values of, respectively, 2 and 1, the group preference would be 1/3. In the event that three out of three invitees could attend the meeting during a slot, with preference values of, respectively, 3, 1, 3, the group preference would be 7/9. – See ¶ [0062] of Wang); and

Wang does not expressly teach the limitation:

- b) combine said determined values, according to a further rule set, to derive a value indicative of the overall degree of support by said at least one physical entity for the requested event, and to output said derived value for input to the scheduling means, wherein at least one of said values is defined by means of a fuzzy set, at least one of said rule sets comprise at least one fuzzy rule and

wherein said determining means comprise at least one fuzzy logic processor
(For conference date and time 956, type 959a for numerically designating the
date and time or type of fuzzy expression having a breadth such as "afternoon of
X day of X month", "around X day of X month", "within one week", "within next
week" and "urgently" can be selected by selecting one of buttons 959b to 959e
by means of the mouse cursor 952. – See Col. 9, line 66 – Col. 10, line 5 of
Koreeda et al.).

However, Koreeda teaches how potential attendees specify a preferred time for a
meeting using fuzzy logic in the form "around X". It would have been obvious to one
of ordinary skill in the art at the time of the invention to include fuzzy set and fuzzy
rule in determining preference values, indicative of the physical entity in Wang, as
taught by Koreeda. Since the claimed invention is merely a combination of old
elements and, in the combination, each element merely would have performed the
same function as it did separately, one of ordinary skill in the art would have
recognized that the results of the combination were predictable.

Claim 2:

Wang and Koreeda teach an event scheduling apparatus as described in claim 1 above.
Wang further teaches the limitations:

- wherein said determining means are implemented, in use, as a plurality of
  participant software agents, each participant software agent being operable on
  behalf of at least one physical entity identified in the received event request
  (Preferably software components relating to the same slot combine to form a
  single software component. Conveniently, such combining of software
  components involves passing the invitee details corresponding to one of the
  software components to the other software component, and deleting the
  software components whose invitee details were passed; this retained software
  component thus records invitee details relating to itself and to the deleted slot
  agent. – See ¶ [0019] of Wang).

Claim 3:

Wang and Koreeda teach an event scheduling apparatus as described in claim 2 above. Wang further teaches the limitations:

- wherein the evaluating means further comprise a proposer software agent operable to receive an event request and, for one or more physical entities identified therein (Turning to FIG. 6, at step 601, the slot agent SA1 receives the availability message sent at step 317, and, if the message indicates that user U3 is not free (evaluated at step 603), the slot agent SA1 uses the user's preference for attending the meeting during that slot to evaluate 605 ... See ¶ [0061] of Wang), to:

- i) determine a value for a measure of the importance of the identified physical entity to the requested event, each said value being derived according to a rule set for said measure by combining information about the event with data obtained from at least one information source associated with the identified physical entity (The group preference indicates a collective preference for attending the meeting during that slot. Assuming that "most preferred" is indicated by a value of 3, "least preferred" is indicated by a value of 1 and "not available" is indicated by a value of 0, then, in the event that two out of three invitees could attend the meeting during a slot, with preference values of, respectively, 2 and 1, the group preference would be 1/3. In the event that three out of three invitees could attend the meeting during a slot, with preference values of, respectively, 3, 1, 3, the group preference would be 7/9. – See ¶ [0062] of Wang); and

- ii) generate an event proposal comprising the importance value from i) together with information about the event, for sending to the respective participant software agent for the identified physical entity (SchedulerA informs SchedulerB and SchedulerC of the meeting information (step 307), whereupon SchedulerB, SchedulerC and SchedulerA each propose one slot (step 303). SchedulerA

proposes the 9-10 am slot because it has the highest preference (creating slot
agent A(9-10)), while SchedulerB proposes 10-11 am and SchedulerC proposes
11 am-12 noon (creating slot agent B(10-11) and slot agent C(11-12)
respectively). – See ¶ [0082] of Wang).

Claim 4:

Wang and Koreeda teach an event scheduling apparatus as described in claim 1 above.
Wang further teaches the limitation:

- wherein said rule sets are personalised to respective physical entities (As an
  additional alternative, each scheduler 200a, 200b, 200c may, instead of creating
  a plurality of slot agents, create one slot agent only. This alternative is preferable
  if there is a privacy constraint on the scheduling; however, if the objective is to
  schedule an event in a short timescale, a plurality of slot agents SA should be
  created. – See ¶ [0052] of Wang).

Claim 5:

Wang and Koreeda teach an event scheduling apparatus as described in claim 1 above.
Wang further teaches evaluating means and feedback techniques, but does not
expressly teach the limitation:

- wherein the evaluating means further comprise adjusting means arranged to
  receive feedback by, or on behalf of, a physical entity in relation to an output by
  the scheduling means corresponding to a received event request in which said
  physical entity is identified, and to make adjustments to fuzzy sets and/or fuzzy
  rules in accordance with said received feedback.

On the other hand, Koreeda teaches fuzzy logic (For conference date and time 956,
type 959a for numerically designating the date and time or type of fuzzy expression
having a breadth such as "afternoon of X day of X month", "around X day of X
month", "within one week", "within next week" and "urgently" can be selected by

selecting one of buttons 959b to 959e by means of the mouse cursor 952. – See Col. 9, line 66 – Col. 10, line 5 of Koreeda et al.) It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the elements of evaluating means and providing feedback as taught in Wang with that of making adjustments to fuzzy set and/or fuzzy rules as taught by Koreeda. Since the claimed invention is merely a combination of old elements and, in the combination, each element merely would have performed the same function as it did separately, one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claim 6:

Wang and Koreeda teach an event scheduling apparatus as described in claim 1 above. Wang further teaches:

- wherein the evaluating means and the scheduling means are implemented in a distributed manner (Turning firstly to FIG. 2, the scheduler 200 runs on a terminal, such as one of those shown in FIG. 1 (terminal T3 in FIG. 2). In addition to the conventional diary management application described above, the terminal T3 comprises a central processing unit (CPU) 201, a memory unit 203, an input/output device 205 for connecting the terminal T1 to the network N1, storage 207, and a suite of operating system programs 209, which control and co-ordinate low level operation of the terminal T3. Such a configuration is well known in the art. – See ¶ [0043] of Wang).

Claim 8:

Wang discloses the limitations of a software agent operable in a computer processing arrangement on behalf of at least one physical entity:

- to evaluate event requests received over a communications network and to output a value for use by an event scheduler indicative of the overall degree of support by said at least one physical entity for a respective requested event

(Turning firstly to FIG. 2, the scheduler 200 runs on a terminal, such as one of
those shown in FIG. 1 (terminal T3 in FIG. 2). In addition to the conventional
diary management application described above, the terminal T3 comprises a
central processing unit (CPU) 201, a memory unit 203, an input/output device
205 for connecting the terminal T1 to the network N1, storage 207, and a suite of
operating system programs 209, which control and co-ordinate low level
operation of the terminal T3. Such a configuration is well known in the art. – See
¶ [0043] 0f Wang) ,

Wang teaches schedule checking program and agent creating programs (In the event
that the schedule checking program 213 identifies one or more such free blocks, the
agent creating program 211 creates 305 one or more slot agents corresponding to the
identified blocks (so-called "slots") – See ¶ [0047] of Wang). However, Wang does dot
expressly teach the limitations:

- wherein the software agent is responsive, on receipt of an event request
  comprising information about the event, to apply fuzzy logic processing
  techniques to combine information about the requested event with information
  obtained from a plurality of information sources associated with said at least one
  physical entity to determine a value for each of a plurality of predetermined
  measures, said measures including a measure of the importance of the
  requested event to said at least one physical entity,

- the value for at least one of said measures being defined by a fuzzy set and the
  value for at least one of said measures being derived according to a fuzzy rule
  for the measure, and to apply a further rule set comprising at least one fuzzy rule
  to combine said values of said measures to derive and output a value indicative
  of the overall degree of support by said at least one physical entity for the
  requested event for input to an event scheduler (For conference date and time
  956, type 959a for numerically designating the date and time or type of fuzzy
  expression having a breadth such as "afternoon of X day of X month", "around X

day of X month", "within one week", "within next week" and "urgently" can be selected by selecting one of buttons 959b to 959e by means of the mouse cursor 952. – See Col. 9, line 66 – Col. 10, line 5 of Koreeda et al.).

On the other hand, Koreeda teaches fuzzy logic and the limitation as cited. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the elements of schedule checking and agent creating programs (software agents) as taught in Wang with that of applying fuzzy logic processing techniques to combine information about the requested event with other information from other sources as taught by Koreeda. Since the claimed invention is merely a combination of old elements and, in the combination, each element merely would have performed the same function as it did separately, one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claim 9:

Wang and Koreeda teach a software agent as in claim 8 as described above. Further, Wang teaches event scheduler, but does not expressly teach the limitation:

- operable to receive an output by an event scheduler generated by the scheduler in respect of a requested event using a respective said value indicative of the overall degree of support by said at least one physical entity for the requested event and to adjust one of more fuzzy sets or fuzzy rules in respect of said at least one physical entity according to feedback received on behalf of said at least one physical entity in respect of said output by the event scheduler.

Koreeda, on the other hand teaches fuzzy logic. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the elements as taught by Koreeda to that of Wang to enable the software agent to perform as stated in Claim 9. Since the claimed invention is merely a combination of old elements and, in the combination, each element merely would have performed

the same function as it did separately, one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: 1) Online Meeting Planning Program (US 2002/0032592 A1) by Krasnick et al., and 2) Scheduling System with Methods for Polling to Determine Best Date and Time (US 2003/0004773 A1) by Clark et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERNEST A. JACKSON whose telephone number is (571)270-7984. The examiner can normally be reached on Monday - Thursday, 7:30 a.m. - 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beth Boswell can be reached on 571-272-6737. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. A. J./
Examiner, Art Unit 3623

/Jonathan G. Sterrett/
Primary Examiner, Art Unit 3623